

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A compound comprising two or more antigen binding regions linked to at least one prodrug-activating enzyme, wherein
 - a) the antigen binding regions consist of a single polypeptide chain;
 - b) the single polypeptide chain is comprised of a first variable domain, a second variable domain, and a polypeptide linker connecting the first variable domain and the second variable domain, wherein a nucleotide sequence encoding the polypeptide linker is formed by two partially overlapping PCR primers during a PCR reaction that links the first variable domain and the second variable domain; and wherein
 - c) the compound has a bivalent or a multivalent structure; and wherein
 - d) the compound is glycosylated.
2. (Previously Presented) A compound as claimed in claim 1, wherein the compound further comprises covalently bonded carbohydrates.
3. (Previously Presented) A compound as claimed in claim 1, wherein at least one antigen binding region comprises a variable domain of a heavy antibody chain and a variable domain of a light antibody chain (sFv fragment).
4. (Original) A compound as claimed in claim 1, wherein the antigen binding region binds to a tumor-associated antigen (TAA).

5. (Previously Presented) A compound as claimed in claim 4, wherein the TAA is selected from the group consisting of an N-CAM, PEM, EGF-R, Sialyl-Le^a, Sialyl-Le^X, TF β , GICA, GD₃, GD₂, TAG72, CA125, the 24-25 kDa glycoprotein defined by Mab L6, and CEA.

6. (Previously Presented) A compound as claimed in claim 1, wherein the enzyme is selected from the group consisting of a lactamase, pyroglutamate aminopeptidase, D-aminopeptidase, oxidase, peroxidase, phosphatase, hydroxynitrile lyase, protease, esterase, carboxypeptidase and glycosidase.

7. (Previously Presented) A compound as claimed in claim 6, wherein the enzyme is a β -glucuronidase, which is selected from the group consisting of an *E. coli* β -glucuronidase, a *Kobayasia nipponica* β -glucuronidase, a *Secale cereale* β -glucuronidase and a human β -glucuronidase.

8. (Original) A compound as claimed in claim 1, wherein the antigen binding region is linked to the enzyme via a peptide linker.

9. (Previously Presented) A compound as claimed in claim 2, wherein glycosylation covalently bonds the carbohydrates to the compound, and the glycosylation takes place either by means of chemical methods or by a selection of suitable expression systems.

10. (Previously Presented) A compound as claimed in claim 1, which has undergone secretory expression in *Saccharomyces cerevisiae* or in *Hansenula polymorpha*.

11. (Previously Presented) A compound as claimed in claim 1, which is expressed in *E. coli* and is subsequently chemically glycosylated.

12. (Currently Amended) A compound as claimed in claim 30, wherein the sFv- β -lactamase fusion protein has undergone periplasmic expression in *E. coli* and is subsequently chemically glycosylated.

13. (Previously Presented) A compound as claimed in claim 30, wherein the sFv- β -lactamase fusion protein has undergone secretory expression in *Saccharomyces cerevisiae* or *Hansenula polymorpha*.

14. (Withdrawn) A nucleic acid coding for a compound as claimed in claim 1.

15. (Withdrawn) A nucleic acid as claimed in claim 14, coding for a humanized sFv fragment against CEA and a human β -glucuronidase.

16. (Withdrawn) A nucleic acid as claimed in claim 14 with the sequence

CCAAGCTTAT GAATATGCAA ATCCTGCTCA TGAATATGCA AATCCTCTGA	50
ATCTACATGG TAAATATAGG TTTGTCTATA CCACAAACAG AAAAACATGA	100
GATCACAGTT CTCTCTACAG TTACTGAGCA CACAGGACCT CACC ATG GGA TGG	153
Met Gly Trp	
AGC TGT ATC ATC CTC TTC TTG GTA GCA ACA GCT ACA GGTAAGGGGC	199
Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr	
-10	
TCACAGTAGC AGGCTTGAGG TCTGGACATA TATATGGGTG ACAATAGACAT	249
CCACTTTGCC TTTCTCTCCA CA GGT GTC CAC TCC CAG GTC CAA CTG CAG	298
Gly Val His Ser Gln Val Gln Leu Gln	
1	
GAG AGC GGT CCA GGT CTT GTG AGA CCT AGC CAG ACC CTG AGC CTG	343
Glu Ser Gly Pro Gly Leu Val Arg Pro Ser Gln Thr Leu Ser Leu	
10	
ACC TGC ACC GTG TCT GGC TTC ACC ATC AGC AGT GGT TAT AGC TGG	388
Thr Cys Thr Val Ser Gly Phe Thr Ile Ser Ser Gly Tyr Ser Trp	
30	
CAC TGG GTG AGA CAG CCA CCT GGA CGA GGT CTT GAG TGG ATT GGA	433
His Trp Val Arg Gln Pro Pro Gly Arg Gly Leu Glu Trp Ile Gly	
40	

TAC ATA CAG TAC AGT GGT ATC ACT AAC TAC AAC CCC TCT CTC AAA	478
Tyr Ile Gln Tyr Ser Gly Ile Thr Asn Tyr Asn Pro Ser Leu Lys	
60	
AGT AGA GTG ACA ATG CTG GTA GAC ACC AGC AAG AAC CAG TTC AGC	523

Ser Arg Val Thr Met Leu Val Asp Thr Ser Lys Asn Gln Phe Ser		
70	80	
CTG AGA CTC AGC AGC GTG ACA GCC GCC GAC ACC GCG GTC TAT TAT		568
Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr		
90		
TGT GCA AGA GAA GAC TAT GAT TAC CAC TGG TAC TTC GAT GTC TGG		613
Cys Ala Arg Glu Asp Tyr Asp Tyr His Trp Tyr Phe Asp Val Trp		
100	110	
GGC CAA CCC ACC ACG GTC ACC GTC TCC TCA GGA GGC GGT GGA TCG		658
Gly Gln Gly Thr Thr Val Thr Val Ser Ser <u>Gly</u> <u>Gly</u> <u>Gly</u> <u>Gly</u> Ser		
120		
GGC GGT GGT GGG TCG GGT GGC GGC GGA TCT GAC ATC CAG CTG ACC		703
<u>Gly</u> <u>Gly</u> <u>Gly</u> <u>Gly</u> Ser Gly Gly Ser Asp Ile Gln Leu Thr		
130	140	
CAG AGC CCA AGC AGC CTG AGC GCC AGC CTC GGT GAC AGA GTG ACC		748
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr		
150		
ATC ACC TGT AGT ACC AGC TCG AGT GTA AGT TAC ATG CAC TGG TAC		793
Ile Thr Cys Ser Thr Ser Ser Val Ser Tyr Met His Trp Tyr		
160	170	
CAG CAG AAG CCA GGT AAG GCT CCA AAG CTG CTG ATC TAC AGC ACA		838
Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Thr		
180		
TCC AAC CTG GCT TCT GGT GTG CCA AGC AGA TTC AGC GGT AGC GGT		883
Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly		
190	200	
AGC GGT ACC GAC TTC ACC TTC ACC ATC AGC AGC CTC CAG CCA GAG		928
Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu		
210		
GAC ATC GCC ACC TAC TAC TGC CAT CAG TGG AGT AGT TAT CCC ACG		973
Asp Ile Ala Thr Tyr Tyr Cys His Gln Trp Ser Ser Tyr Pro Thr		
220	230	
TTC GGC CAA GGG ACC AAG CTG GAG ATC AAA GGTGAGTAGA ATTTAACTTT	1023	
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys		
240		
TGCTTCCTCA GTTGGATCTG AGTAACCTCCC AATCTTCTCT CTGCA GAG CTC AAA	1077	
Glu Leu Lys		
ACC CCA CTT GGT GAC ACA ACT CAC ACA TGC CCA CGG TGC CCA		1119
Thr Pro Leu Gly Asp Thr Thr His Thr Cys Pro Arg Cys Pro		
250		
GGTAAGCCAG CCCAGGACTC GCCCTCCAGC TCAAGGCGGG ACAAGAGCCC	1169	
TAGAGTGGCC TGAGTCCAGG GACAGGCC AGCAGGGTGC TGACGCATCC		1219
ACCTCCATCC CAGATCCCCG TAACTCCCAA TCTTCTCTCT GCA GCG GCG GCG		1271
Ala Ala Ala		
260		
GCG GTG CAG GGC GGG ATG CTG TAC CCC CAG GAG AGC CCG TCG CGG		1316
Ala Val Gln Gly Gly Met Leu Tyr Pro Gln Glu Ser Pro Ser Arg		
270		
GAG TGC AAG GAG CTG GAC GGC CTC TGG AGC TTC CGC GCC GAC TTC	1361	

Glu	Cys	Lys	Glu	Leu	Asp	Gly	Leu	Trp	Ser	Phe	Arg	Ala	Asp	Phe	
															290
TCT	GAC	AAC	CGA	CGC	CGG	GGC	TTC	GAG	GAG	CAG	TGG	TAC	CGG	CGG	1406
Ser	Asp	Asn	Arg	Arg	Arg	Gly	Phe	Glu	Glu	Gln	Trp	Tyr	Arg	Arg	
															300
CCG	CTG	TGG	GAG	TCA	GGC	CCC	ACC	GTG	GAC	ATG	CCA	GTT	CCC	TCC	1451
Pro	Leu	Trp	Glu	Ser	Gly	Pro	Thr	Val	Asp	Met	Pro	Val	Pro	Ser	
															310
AGC	TTC	AAT	GAC	ATC	AGC	CAG	GAC	TGG	CGT	CTG	CGG	CAT	TTT	GTC	1496
Ser	Phe	Asn	Asp	Ile	Ser	Gln	Asp	Trp	Arg	Leu	Arg	His	Phe	Val	
															330
GGC	TGG	GTG	TGG	TAC	GAA	CGG	GAG	GTG	ATC	CTG	CCG	GAG	CGA	TGG	1541
Gly	Trp	Val	Trp	Tyr	Glu	Arg	Glu	Val	Ile	Leu	Pro	Glu	Arg	Trp	
															340
ACC	CAG	GAC	CTG	CGC	ACA	AGA	GTG	GTG	CTG	AGG	ATT	GGC	AGT	GCC	1586
Thr	Gln	Asp	Leu	Arg	Thr	Arg	Val	Val	Leu	Arg	Ile	Gly	Ser	Ala	
															360
CAT	TCC	TAT	GCC	ATC	GTG	TGG	GTG	AAT	GGG	GTC	GAC	ACG	CTA	GAG	1631
His	Ser	Tyr	Ala	Ile	Val	Trp	Val	Asn	Gly	Val	Asp	Thr	Leu	Glu	
															370
CAT	GAG	GGG	GGC	TAC	CTC	CCC	TTC	GAG	GCC	GAC	ATC	AGC	AAC	CTG	1676
His	Glu	Gly	Gly	Tyr	Leu	Pro	Phe	Glu	Ala	Asp	Ile	Ser	Asn	Leu	
															390
GTC	CAG	GTG	GGG	CCC	CTG	CCC	TCC	CGG	CTC	CGA	ATC	ACT	ATC	GCC	1721
Val	Gln	Val	Gly	Pro	Leu	Pro	Ser	Arg	Leu	Arg	Ile	Thr	Ile	Ala	
															400
ATC	AAC	AAC	ACA	CTC	ACC	CCC	ACC	ACC	CTG	CCA	CCA	GGG	ACC	ATC	1766
Ile	Asn	Asn	Thr	Leu	Thr	Pro	Thr	Thr	Leu	Pro	Pro	Gly	Thr	Ile	
															420
CAA	TAC	CTG	ACT	GAC	ACC	TCC	AAG	TAT	CCC	AAG	GGT	TAC	TTT	GTC	1811
Gln	Tyr	Leu	Thr	Asp	Thr	Ser	Lys	Tyr	Pro	Lys	Gly	Tyr	Phe	Val	
															430
CAG	AAC	ACA	TAT	TTT	GAC	TTT	TTC	AAC	TAC	GCT	GGA	CTG	CAG	CGG	1856
Gln	Asn	Thr	Tyr	Phe	Asp	Phe	Phe	Asn	Tyr	Ala	Gly	Leu	Gln	Arg	
															450
TCT	GTA	CTT	CTG	TAC	ACG	ACA	CCC	ACC	ACC	TAC	ATC	GAT	GAC	ATC	1901
Ser	Val	Leu	Leu	Tyr	Thr	Thr	Pro	Thr	Thr	Tyr	Ile	Asp	Asp	Ile	
															460
ACC	GTC	ACC	ACC	AGC	GTG	GAG	CAA	GAC	AGT	GGG	CTG	GTG	AAT	TAC	1946
Thr	Val	Thr	Thr	Ser	Val	Glu	Gln	Asp	Ser	Gly	Leu	Val	Asn	Tyr	
															480
CAG	ATC	TCT	GTC	AAG	GGC	AGT	AAC	CTG	TTC	AAG	TTG	GAA	GTG	CGT	1991
Gln	Ile	Ser	Val	Lys	Gly	Ser	Asn	Leu	Phe	Lys	Leu	Glu	Val	Arg	
															490
CTT	TTG	GAT	GCA	GAA	AAC	AAA	GTC	GTG	GCG	AAT	GGG	ACT	GGG	ACC	2036
Leu	Leu	Asp	Ala	Glu	Asn	Lys	Val	Val	Ala	Asn	Gly	Thr	Gly	Thr	
															510
CAG	GGC	CAA	CTT	AAG	GTG	CCA	GGT	GTC	AGC	CTC	TGG	TGG	CCG	TAC	2081
Gln	Gly	Gln	Leu	Lys	Val	Pro	Gly	Val	Ser	Leu	Trp	Trp	Pro	Tyr	
															520
CTG	ATG	CAC	GAA	CGC	CCT	GCC	TAT	CTG	TAT	TCA	TTG	GAG	GTG	CAG	2126
															530

Leu Met His Glu Arg Pro Ala Tyr Leu Tyr Ser Leu Glu Val Gln	540	
CTG ACT GCA CAG ACG TCA CTG GGG CCT GTG TCT GAC TTC TAC ACA		2171
Leu Thr Ala Gln Thr Ser Leu Gly Pro Val Ser Asp Phe Tyr Thr	550	
560		
CTC CCT GTG GGG ATC CGC ACT GTG GCT GTC ACC AAG AGC CAG TTC		2216
Leu Pro Val Gly Ile Arg Thr Val Ala Val Thr Lys Ser Gln Phe	570	
570		
CTC ATC AAT GGG AAA CCT TTC TAT TTC CAC GGT GTC AAC AAG CAT		2261
Leu Ile Asn Gly Lys Pro Phe Tyr Phe His Gly Val Asn Lys His	580	
590		
GAG GAT GCG GAC ATC CGA GGG AAG GGC TTC GAC TGG CCG CTG CTG		2306
Glu Asp Ala Asp Ile Arg Gly Lys Gly Phe Asp Trp Pro Leu Leu	600	
600		
GTG AAG GAC TTC AAC CTG CTT CGC TGG CTT GGT GCC AAC GCT TTC		2351
Val Lys Asp Phe Asn Leu Leu Arg Trp Leu Gly Ala Asn Ala Phe	610	
620		
CGT ACC AGC CAC TAC CCC TAT GCA GAG GAA GTG ATG CAG ATG TGT		2396
Arg Thr Ser His Tyr Pro Tyr Ala Glu Glu Val Met Gln Met Cys	630	
630		
GAC CGC TAT GGG ATT GTG GTC ATC GAT GAG TGT CCC GGC GTG GGC		2441
Asp Arg Tyr Gly Ile Val Val Ile Asp Glu Cys Pro Gly Val Gly	640	
650		
CTG GCG CTG CCG CAG TTC TTC AAC AAC GTT TCT CTG CAT CAC CAC		2486
Leu Ala Leu Pro Gln Phe Phe Asn Asn Val Ser Leu His His His	660	
660		
ATG CAG GTG ATG GAA GAA GTG GTG CGT AGG GAC AAG AAC CAC CCC		2531
Met Gln Val Met Glu Glu Val Val Arg Arg Asp Lys Asn His Pro	670	
680		
GCG GTC GTG ATG TGG TCT GTG GCC AAC GAG CCT GCG TCC CAC CTA		2576
Ala Val Val Met Trp Ser Val Ala Asn Glu Pro Ala Ser His Leu	690	
690		
GAA TCT GCT GGC TAC TAC TTG AAG ATG GTG ATC GCT CAC ACC AAA		2621
Glu Ser Ala Gly Tyr Tyr Leu Lys Met Val Ile Ala His Thr Lys	700	
710		
TCC TTG GAC CCC TCC CGG CCT GTG ACC TTT GTG AGC AAC TCT AAC		2666
Ser Leu Asp Pro Ser Arg Pro Val Thr Phe Val Ser Asn Ser Asn	720	
720		
TAT GCA GCA GAC AAG GGG GCT CCG TAT GTG GAT GTG ATC TGT TTG		2711
Tyr Ala Ala Asp Lys Gly Ala Pro Tyr Val Asp Val Ile Cys Leu	730	
740		
AAC AGC TAC TAC TCT TGG TAT CAC GAC TAC GGG CAC CTG GAG TTG		2756
Asn Ser Tyr Tyr Ser Trp Tyr His Asp Tyr Gly His Leu Glu Leu	750	
750		
ATT CAG CTG CAG CTG GCC ACC CAG TTT GAG AAC TGG TAT AAG AAG		2801
Ile Gln Leu Gln Leu Ala Thr Gln Phe Glu Asn Trp Tyr Lys Lys	760	
770		
TAT CAG AAG CCC ATT ATT CAG AGC GAG TAT GGA GCA GAA ACG ATT		2846
Tyr Gln Lys Pro Ile Ile Gln Ser Glu Tyr Gly Ala Glu Thr Ile	780	
780		
GCA GGG TTT CAC CAG GAT CCA CCT CTG ATG TTC ACT GAA GAG TAC		2891

Ala	Gly	Phe	His	Gln	Asp	Pro	Pro	Leu	Met	Phe	Thr	Glu	Glu	Tyr			
				790										800			
CAG	AAA	AGT	CTG	CTA	GAG	CAG	TAC	CAT	CTG	GGT	CTG	GAT	CAA	AAA	2936		
Gln	Lys	Ser	Leu	Leu	Glu	Gln	Tyr	His	Leu	Gly	Leu	Asp	Gln	Lys			
														810			
CGC	AGA	AAA	TAT	GTG	GTT	GGA	GAG	CTC	ATT	TGG	AAT	TTT	GCC	GAT	2981		
Arg	Arg		Lys	Tyr	Val	Val	Gly	Glu	Leu	Ile	Trp	Asn	Phe	Ala	Asp		
														820	830		
TTC	ATG	ACT	GAA	CAG	TCA	CCG	ACG	AGA	GTG	CTG	GGG	ATT	AAA	AAG	3026		
Phe	Met	Thr	Glu	Gln	Ser	Pro	Thr	Arg	Val	Leu	Gly	Asn	Lys	Lys			
														840			
GGG	ATC	TTC	ACT	CGG	CAG	AGA	CAA	CCA	AAA	AGT	GCA	GCG	TTC	CTT	3071		
Gly	Ile		Phe	Thr	Arg	Gln	Arg	Gln	Pro	Lys	Ser	Ala	Ala	Phe	Leu		
														850	860		
TTG	CGA	GAG	AGA	TAC	TGG	AAG	ATT	GCC	AAT	GAA	ACC	AGG	TAT	CCC	3116		
Leu	Arg	Glu	Arg	Tyr	Trp	Lys	Ile	Ala	Asn	Glu	Thr	Arg	Tyr	Pro			
														870			
CAC	TCA	GTA	GCC	AAG	TCA	CAA	TGT	TTG	GAA	AAC	AGC	CCG	TTT	ACT	3161		
His	Ser	Val	Ala	Lys	Ser	Gln	Cys	Leu	Glu	Asn	Ser	Pro	Phe	Thr			
														880	890		
TGA	GCAAGACTGA	TACCACCTGC	GTGTCCCTTC	CTCCCCGAGT	CAGGGCGACT										3214		
TCCACAGCAG	CAGACAAGT	GCCTCCTGGA	CTGTTCACGG	CAGACCAGAA											3264		
CGTTTCTGGC	CTGGGTTTG	TGGTCATCTA	TTCTAGCAGG	GAACACTAAA											3314.		

17. (Withdrawn) A vector containing a nucleic acid as claimed in claim 14.

18. (Withdrawn) A host cell containing a nucleic acid as claimed in claim 14 or a vector as claimed in claim 17.

19. (Withdrawn) A host cell as claimed in claim 18, which is a BHK, CHO, COS, HeLa, insect, tobacco plant, yeast or *E. coli* cell.

20. (Withdrawn) A transgenic mammal with the exception of a human, containing a DNA as claimed in claim 14 or a vector as claimed in claim 17.

21. (Withdrawn) A process for preparing a compound as claimed in claim 1, which comprises

- a) introducing a nucleic acid as claimed in claim 14 or a vector as claimed in claim 17 into a host cell,
- b) cultivating the host cell, and

- c) isolating the compound.

22. (Withdrawn) A process for preparing a compound as claimed in claim 1, which comprises

- a) cultivating a host cell as claimed in claim 18, and
- b) isolating the compound.

23. (Canceled).

24. (Canceled).

25. (Previously Presented) A pharmaceutical composition comprising a compound as claimed in claim 1 and a physiologically acceptable carrier.

26. (Previously Presented) A diagnostic aid comprising a compound as claimed in claim 1.

27. (Previously Presented) A compound as claimed in claim 6, wherein the lactamase enzyme is a *Bacillus cereus* β -lactamase II.

28. (Previously Presented) A compound as claimed in claim 6, wherein the carboxypeptidase enzyme is a carboxypeptidase G2 from *Pseudomonas*.

29. (Previously Presented) A compound as claimed in claim 10, which has undergone secretory expression in *Hansenula polymorpha*.

30. (Currently Amended) A compound as claimed in claim 1, wherein at least one antigen binding region and at least one prodrug-activating enzyme form an sFv- β -lactamase fusion protein.

31. (Previously Presented) A compound as claimed in claim 11, wherein the chemical glycosylation involves at least one of galactosylation or mannosylation.

32. (Previously Presented) A compound as claimed in claim 12, wherein the chemical glycosylation involves at least one of galactosylation or mannosylation.

33. (Previously Presented) A method of treating cancer comprising administering a compound claimed in claim 1 to a host in need thereof and subsequently administering a prodrug to be activated by the enzyme portion of the compound of claim 1.

34. (Currently Amended) A compound comprising one or more antigen binding regions linked to at least one prodrug-activating enzyme, wherein

- a) the antigen binding regions consist of a single polypeptide chain;
- b) the single polypeptide chain is comprised of a first variable domain, a second variable domain, and a polypeptide linker connecting the first variable domain and the second variable domain, wherein a nucleotide sequence encoding the polypeptide linker is formed by two partially overlapping PCR primers during a PCR reaction that links the first variable domain and the second variable domain; and wherein
- c) the compound has a monovalent, bivalent, or multivalent structure; and wherein
- d) the compound is glycosylated.